

Engineering Services

5.5

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Engineering Management



Dlamini, Mphumeleli Lawrence
Director
Engineering



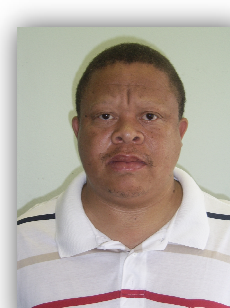
Bezuidenhout, Herman Francois
Assistant Director
Roads



Van Der Merwe, Barend Petrus
Assistant Director
Water & Sewer



Malahlela, Peter Kgomonala
Assistant Director
PMU



Magudulela, Skhumbuzo
Assistant Director
Electrical



























Louw, Petrus Nicolaas
Assistant Director Maintenance

5.5.1 - Summary Information




Function: Msukaligwa Municipality

Sub: Engineering Services



Reporting Level	Detail	Total
Overview	<p>We provide infrastructure by utilizing our human and material resources to do thorough planning, quality construction of new projects as well as continuous maintenance of existing infrastructure, IDP and other projects</p> <p style="text-align: center;">Mr. Dlamini, Mphumeleli Lawrence Director Engineering Services</p> <p>Foreword By The Director Engineering Services</p> <p>During this financial year the Engineering department will strive to eradicate the backlog on service delivery issues. Water and sanitation and electricity provisioning as the most critical service delivery aspects, have received priority attention. We further more strive to uplift the morale of our staff in providing recognition for tasks well done as well as implement incident management capabilities throughout the department.</p>	
Description of the Activity:	<p>Administrative Functions</p> <p>The following management team is responsible for several functions as indicated, and accordingly forming part of the engineering department.</p>	
1.	<p>Water and Sewer Section:</p> <p style="text-align: center;">Mr. Van Der Merwe, Barend Petrus Assistant Director</p> <p>Responsible for all water and sewer related functions including water purification, water network, sewer purification and sewer networking.</p> <p>The strategic objectives of this function are to:</p> <ul style="list-style-type: none">  Maintenance of purification plants  Maintenance of sewer network  Upgrading of the network to accommodate the increased demand  The purifying of effluent to specified standards and requirements  The removal of mainline blockages  The supply of water to rural areas  Purifying of water to specification  The safe storage of purified water in reservoirs  Maintenance of the bulk and internal water network  Maintenance of purification plants <p>The key issues for 2007/08 are:</p> <ul style="list-style-type: none">  Budget Control  Planning and execution of contractor deliverables  Budget constraints  Outdated and old equipment  Personnel shortages <p>Solving the key issues</p> <ul style="list-style-type: none">  Proper management of all available resources  Constant monitoring and re-alignment of resources 	
2.	<p>Roads and storm water:</p> <p style="text-align: center;">Mr. Bezuidenhout, Herman Francois Assistant Director</p> <p>Responsible for the provisioning of safe access roads in city limits within the borders of the Msukaligwa Municipality. Eradication and maintenance of wear and tare of tarred roads. Potholes development and general road deteriorations are most probably the greatest challenge created from an increase of heavy duty coal transports throughout the region.</p> <p>The strategic objectives of this function are to:</p> <ul style="list-style-type: none">  The upgrading of gravel roads to a tar or paved standard  Rehabilitation of existing tar roads by means of resealing  The repairs of storm water catch pits on a regular basis 	

-  The re-gravelling and maintenance of all gravel roads to acceptable standards
-  The fixing and repairs of potholes
-  The grading of fire paths within Municipal boundaries on a yearly basis
-  The maintenance of side walks

The key issues for 2007/08 are:

-  Budget constraints
-  Outdated and old equipment
-  Personnel shortages

Solving the key issues

-  Proper management of all available resources
-  Constant monitoring and re-alignment of resources






3.

Electrical Section:







Mr. Magudulela, Skhumbuzo Ronald
Assistant Director

Responsible for the distribution of electricity, street lighting and maintenance of the electrical grid which is the responsibility of the Msukaligwa Municipality.



The strategic objectives of this function are to:

-  To supply electric to consumers
-  The maintaining of street and public lights
-  The maintaining of electrical network
-  The upgrading of electrical network to accommodate increasing demand
-  The electrification of newly developed areas

The key issues for 2007/08 are:

-  Outdated equipment
-  Shortage of personnel
-  Outdated electrical network
-  Budget constraints
-  Increasing demand
-  Electricity theft

Solving the key issues

-  Proper management of all available resources
-  Constant monitoring and re-alignment of resources






4.

Technical and Maintenance Section:




Mr. Petrus Nicolaas Louw
Assistant Director

Responsible for the maintenance of all municipal buildings of Msukaligwa Municipality.



The strategic objectives of this function are to:

-  The maintenance of all other halls in Msukaligwa
-  The maintaining of all other municipal buildings (old age homes, flats etc.)
-  The maintenance of fixed electrical equipment (stoves, lights, geysers etc.)
-  The maintenance of stand-by generators
-  The maintenance of Civic Centre Ermelo

The key issues for 2007/08 are:






-  Old and outdated equipment
-  Shortage of personnel
-  Budget constraints

Solving the key issues

-  Proper management of all available resources
-  Constant monitoring and re-alignment of resources






























Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Waste Water Management [Sewer]

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2.	Free Basic Service Provision:  Quantity (number of households affected)  Quantum (value to each household)	5 620 40.50pm	
3.	Total operating cost of sewerage function		12 499 403
Key Performance Area	Performance During the Year, Performance Targets Against Actual Achieved and Plans to Improve Performance	Current	Target
Outfall sewer	 Nganga bulk sewer pump line and pump station  Dedicated supply line for housing project Ext 6 Wesselton bulk sewer line  Dedicated supply line for housing project for the disabled Wesselton Ext 4	100% 100% 100%	100% 100% 100%

5.5.2.2 - Detail Information

Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Water Management









































Reporting Level	Detail	Total	
Overview:	Includes the bulk purchase and distribution of water		
Description of the Activity:	The water purchase and distribution functions of the municipality are administered as follows and include:		
	 The supply of water to rural areas		
	 Purifying of water to specification		
	 The safe storage of purified water in reservoirs		
	 Maintenance of the bulk and internal water network		
	 Maintenance of purification plants		
	These services extend to include <i>Msukaligwa Municipality</i>, but do not take account of <i>GSDM Municipality</i> which sits within the jurisdiction of <i>Provincial</i> government. The municipality has a mandate to:		
	 The supply of water to rural areas		
	 Purifying of water to specification		
	 The safe storage of purified water in reservoirs		
 Maintenance of the bulk and internal water network			
 Maintenance of purification plants			
	The strategic objectives of this function are to:		
	 The supply of water to rural areas		
	 Purifying of water to specification		
	 The safe storage of purified water in reservoirs		
	 Maintenance of the bulk and internal water network		
	 Maintenance of purification plants		
	The key issues for 2007/08 are:		
	 Constant supply of pure water		
	 Maintenance of equipment		
	 Personnel shortages		
 Budget constraints			
 Outdated equipment			
	Solving the key issues		
	 Proper management of all available resources		
	 Constant monitoring and re-alignment of resources		
	<Provide statistical information on (as a minimum):>		
	Number and cost to employer of all personnel associated with the water distribution function:		
	 Professional (Engineers/Consultants)	1	
	 Field (Supervisors/Foremen)	3	
	 Special Workforce	16	
	 Non-professional (blue collar, outside workforce)	37	
	 Temporary	0	
 Contract	0		
	Total Costs:	5 800 044.90	
	Percentage of total water usage per month	100%	
	Total volume and cost of bulk water purchases in kilolitres and rand, by category of consumer		
 Standard [All usage on same level]	451771 KI	1 010 373	
	Total volume and receipts for bulk water sales in kilolitres and rand, by category of consumer:		

	Standard [All usage on same level]	2973506 KI	13 970 713
	Number of households with water service, and type of service:		
	Piped water inside dwelling	27 700	
	Piped water inside yard	2 129	
	Piped water on community stand: distance < 200m from dwelling	2 150	
	Piped water on community stand: distance > 200m from dwelling	650 Rural	
	Borehole	450	
	Spring	0	
	Rain-water tank	0	
	Other types of services:		
	Engineering Water Monitoring services (monitoring and testing of water quality in Msukaligwa.)		108 000
	Number and cost of new connections:(R 2052/connection)		
	154 New water meters were installed.	154	388 080
	During the year 171 water meters were replaced.	171	43 263
	450 Water meter test readings were made.	450	
	Number and cost of disconnections and reconnections:	0	0
	Number and total value of water projects planned and current:		
	Current (financial year after year reported on)	6	20 998 680
	Planned (future years)	4	
	Anticipated expansion of water service:		
	Piped water inside dwelling	2 500	3 750 000
	Piped water inside yard	750	1 250 000
	Piped water on community stand: distance < 200m from dwelling	0	0
	Piped water on community stand: distance > 200m from dwelling	0	0
	Borehole	150	750 000
	Spring	0	0
	Rain-water tank	0	0
	Estimated backlog in number (and cost to provide) water connection:		
	Piped water inside dwelling	2 750	2 500 000
	Piped water inside yard	289	
	Piped water on community stand: distance < 200m from dwelling	0	
	Piped water on community stand: distance > 200m from dwelling	0	
	Borehole	0	
	Spring	0	0
	Rain-water tank	0	0
	Free Basic Service Provision:		
	Quantity (number of households affected)(Unmetered)	27 631	
	Quantity (value to each household, <i>Per Month/Household 6kl. free basic water</i>)	12.75pm	
	Type and number of grants and subsidies received:		
	Operational and Capital Grants		13 900 000
	Total operating cost of water distribution function		20 655 504
Key Performance Area	Performance During the Year, Performance Targets Against Actual Achieved and Plans to Improve Performance	Current	Target
Upgrade of water Purification Plant	Construction of new WTW Ermelo (13,500,000)	100%	100%

Drilling of Boreholes	 Rural (1,733,680)	100%	100%
New Water Network	 Water supply to 5 informal settlements (Nganga)(750,000)	100%	100%
	 Elevated tank and supply line to proposed housing project (Kwazanele ext 5) (980,000)	100%	100%
	 Dedicated supply line Ext 6, Wesselton (500,000)	100%	100%
Upgrade water Network	 Replace AC pipes in existing network (3,535,000)	100%	100%

5.5.2.3 - Detail Information





































Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Roads and Storm water

Reporting Level	Detail	Total																								
Overview:	Construction and maintenance of roads within the municipality's jurisdiction																									
Description of the Activity:	<p>The road maintenance and construction responsibilities of the municipality are administered as follows and include:</p> <ul style="list-style-type: none">  Gravel Roads  Side Walks  Storm Water Drainage  Tar Roads <p>These services extend to include <i>Msukaligwa Municipality</i>, but do not take account of <i>GSDM Municipality</i> which resides within the jurisdiction of <i>Provincial</i> government. The municipality has a mandate to:</p> <ul style="list-style-type: none">  Importing of gravel and grading of gravel roads in Msukaligwa.  Concrete floor tiles, grass blocks and concrete repairs on sidewalks in Msukaligwa  Resurfacing and fixing of potholes on all the tar roads in Msukaligwa <p>The strategic objectives of this function are to:</p> <ul style="list-style-type: none">  The upgrading of gravel roads to a tar or paved standard  Rehabilitation of existing tar roads by means of resealing  The repairs of storm water catch pits on a regular basis  The re-gravelling and maintenance of all gravel roads to acceptable standards  The fixing and repairs of potholes  The grading of fire paths within Municipal boundaries on a yearly basis  The maintenance of side walks <p>The key issues for 2007/08 are:</p> <ul style="list-style-type: none">  Budget constraints  Budget constraints  Outdated and old equipment  Personnel shortages <p>Solving the key issues</p> <ul style="list-style-type: none">  Proper management of all available resources  Constant monitoring and re-alignment of resources 																									
Analysis of the Function:	<p><Provide statistical information on (as a minimum):></p> <table border="1"> <thead> <tr> <th colspan="2">Number and cost to employer of all personnel associated with road maintenance and construction:</th> <th></th> </tr> </thead> <tbody> <tr> <td> Professional (Engineers/Consultants)</td> <td>1</td> <td></td> </tr> <tr> <td> Field (Supervisors/Foremen)</td> <td>4</td> <td></td> </tr> <tr> <td> Special Workforce</td> <td>25</td> <td></td> </tr> <tr> <td> Non-professional (blue collar, outside workforce)</td> <td>29</td> <td></td> </tr> <tr> <td> Temporary</td> <td>0</td> <td></td> </tr> <tr> <td> Contract</td> <td>0</td> <td></td> </tr> <tr> <td colspan="2">Total Costs:</td><td>4 149 085.39</td></tr> </tbody> </table> <p>Total number, kilometres and total value of road projects planned and current:</p> <ul style="list-style-type: none">  New bituminized (3) <ul style="list-style-type: none"> ➤ Construction roads and storm water drainage: Ncongwane street 740 000 ➤ Rehabilitation and re-sealing of Oosthuizen street 3 420 000 ➤ Construction of roads and storm water: Various towns (Breyten and Lothair) 1 500 000  Re-tarring of existing roads: Wesselton, Cassimpark, Ermelo and 4 1 083 000 		Number and cost to employer of all personnel associated with road maintenance and construction:			 Professional (Engineers/Consultants)	1		 Field (Supervisors/Foremen)	4		 Special Workforce	25		 Non-professional (blue collar, outside workforce)	29		 Temporary	0		 Contract	0		Total Costs:		4 149 085.39
Number and cost to employer of all personnel associated with road maintenance and construction:																										
 Professional (Engineers/Consultants)	1																									
 Field (Supervisors/Foremen)	4																									
 Special Workforce	25																									
 Non-professional (blue collar, outside workforce)	29																									
 Temporary	0																									
 Contract	0																									
Total Costs:		4 149 085.39																								

	<p>Breyten):(5,5Km)</p> <p>Total kilometres and maintenance cost associated with existing roads provided</p> <ul style="list-style-type: none"> Tar 224Km 742 121 Gravel 171Km 117 125 Paved 8.3Km 0 <p>Average frequency and cost of re-tarring, re-sheeting roads</p> <ul style="list-style-type: none"> Tar 10 Years Gravel 2 Years <p>Estimated backlog in number of roads, showing kilometres and capital cost</p> <ul style="list-style-type: none"> Tar [Upgrade from gravel @ 3,00,000 per Km] 171Km 513 000 000 Gravel 0 <p>Type and number of grants and subsidies received:</p> <ul style="list-style-type: none"> MIG Grants for road rehabilitation and reconstruction <ul style="list-style-type: none"> ➤ 2007/04 to 2007/06 1 673 300 ➤ 2007/07 to 2007/09 1 1 820 610 ➤ 2007/10 to 2007/12 1 1 529 320 ➤ 2008/01 to 2008/03 1 1 699 230 ➤ 2008/04 to 2008/06 1 1 011 840 <p>Total operating cost of road construction and maintenance function 10 244 573</p>		
Key Performance Area	Performance During the Year, Performance Targets Against Actual Achieved and Plans to Improve Performance	Current	Target
New bituminized and paved	<ul style="list-style-type: none"> Construction roads and storm water drainage: Ncongwane street Rehabilitation and re-sealing of Oosthuizen street Construction of roads and storm water: Various towns 	100% 100% 100%	100% 100% 100%
Re- Sealing	Existing re-tarred (5,5Km)	100%	100%

5.5.2.4 - Detail Information







Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Electrical Distribution

Reporting Level	Detail	Total																																	
Overview:	Includes the bulk purchase and distribution of electricity																																		
Description of the Activity:	<p>The electricity purchase and distribution functions of the municipality are administered as follows and include:</p> <ul style="list-style-type: none">  Bulk purchases from Eskom which in turn is distributed on an agency basis to consumers on Msukaligwa owned infrastructure <p>These services extend to include Msukaligwa Municipality, but do not take account of GSDM Municipality which resides within the jurisdiction of Provincial government. The municipality has a mandate to:</p> <ul style="list-style-type: none">  To provide electricity services to the following towns in the Msukaligwa Municipal region: <ul style="list-style-type: none"> ➤ Ermelo ➤ Wesselton ➤ Breyten ➤ Silindile ➤ Kwadela ➤ Kwazanele <p>The strategic objectives of this function are to:</p> <ul style="list-style-type: none">  To supply electric to consumers  The maintaining of street and public lights  The maintaining of electrical network  The upgrading of electrical network to accommodate increasing demand  The electrification of newly developed areas <p>The key issues for 2007/08 are:</p> <ul style="list-style-type: none">  Outdated equipment  Shortage of personnel  Outdated electrical network  Budget constraints  Increasing demand  Electricity theft <p>Solving the key issues</p> <ul style="list-style-type: none">  Proper management of all available resources  Constant monitoring and re-alignment of resources 																																		
Analysis of the Function:	<p><Provide statistical information on (as a minimum):></p> <p>Number and cost to employer of all personnel associated with the electricity distribution function:</p> <table> <tr> <td> Professional (Engineers/Consultants)</td><td>1</td><td></td></tr> <tr> <td> Field (Supervisors/Foremen)</td><td>1</td><td></td></tr> <tr> <td> Special Workforce</td><td>12</td><td></td></tr> <tr> <td> Non-professional (blue collar, outside workforce)</td><td>17</td><td></td></tr> <tr> <td> Temporary</td><td>0</td><td></td></tr> <tr> <td> Contract</td><td>0</td><td></td></tr> <tr> <td>Total</td><td></td><td>5 287 859</td></tr> </table> <p>Total quantity and cost of bulk electricity purchases in kilowatt hours and rand, by category of consumer</p> <table> <tr> <td></td><td>167985533 Kwh</td><td>34 135 037</td></tr> </table> <p>Total quantity and receipts for bulk electricity sales in kilowatt hours and rand, by category of consumer:</p> <table> <tr> <td></td><td>121097375 Kwh</td><td>53 166 997</td></tr> </table> <p>Total year-to-date electricity losses in kilowatt hours and rand</p> <table> <tr> <td></td><td>46888158 Kwh</td><td>9 527 674</td></tr> </table> <p>Number of households/business with electricity access, and type and cost of service:</p> <table> <tr> <td> Households (Pre-Paid – 12046, Conventional – 11091)</td><td>17 386</td><td>44 788 628</td></tr> </table>	 Professional (Engineers/Consultants)	1		 Field (Supervisors/Foremen)	1		 Special Workforce	12		 Non-professional (blue collar, outside workforce)	17		 Temporary	0		 Contract	0		Total		5 287 859		167985533 Kwh	34 135 037		121097375 Kwh	53 166 997		46888158 Kwh	9 527 674	 Households (Pre-Paid – 12046, Conventional – 11091)	17 386	44 788 628	
 Professional (Engineers/Consultants)	1																																		
 Field (Supervisors/Foremen)	1																																		
 Special Workforce	12																																		
 Non-professional (blue collar, outside workforce)	17																																		
 Temporary	0																																		
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	121097375 Kwh	53 166 997																																	
	46888158 Kwh	9 527 674																																	
 Households (Pre-Paid – 12046, Conventional – 11091)	17 386	44 788 628																																	

	Business & Commercial Alternate energy source Gas Paraffin Solar Wood Non electrified	2 025 NA NA NA NA 2 500	Combined Total Cost
	Number and cost of new connections: ±65 new connections were made to houses, businesses, flats, etc. ±1520 Prepaid meters installed and maintained in Msukaligwa : New and replacements	62 1 250	687 646
	Number and cost of disconnections and reconnections Disconnections Re-Connections	2 364 1 973	17 431 284 291 908
	Number and total value of electrification projects planned and current: Current (financial year after year reported on) Ext 5, 537 Households Planned (future years)	537 5 000 000	1 600 000 5 000 000
	Anticipated expansion of electricity service: 5 New township [establishments]	3 500	15 050 000
	Estimated backlog in number (and cost to provide) electricity connection:	500	2 150 000
	Free Basic Service Provision: Quantity (number of households affected) Quantum (value to each household)	6 500 <i>Basic charge R 78.60 + 50 units R23.50 free/month to registered indigents.</i>	
	Type and number of grants and subsidies received: Electricity ext 32 [DME Finance]	988	3 952 000
	Total operating cost of electricity distribution function		59 603 965
Key Performance Area	Performance During the Year, Performance Targets Against Actual Achieved and Plans to Improve Performance	Current	Target
	Siindile Ext 2 Ermelo Ext 32 Ermelo Ext 5 Ermelo Ext 33	100% 100% 70% 84%	100% 100% 100% 100%
	Reasons and corrective measurements to complete the projects: The Department of Housing was not able to complete the houses in time. The Electrical Section can only electrify completed houses. The Department of Housing is being urged to complete the remaining houses.		












5.5.2.5 - Detail Information

Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Street Lighting

Reporting Level	Detail	Total	
Overview:	Includes all activities associated with the provision of street lighting to the community		
Description of the Activity:	Street lighting responsibilities of the municipality are administered as follows and include:		
	 Free an fully functional street lights		
	These services extend to include <i>Msukaligwa Municipality</i>, but do not take account of <i>GSDM Municipality</i> which resides within the jurisdiction of <i>Provincial</i> government. The municipality has a mandate to:		
	 To supply effective and safe street lighting in Ermelo, Breyten, Wesselton, Silindile and Kwadela		
Analysis of the Function:	The strategic objectives of this function are to:		
	 Provide safe and sustainable services		
	The key issues for 2007/08 are:		
	 Power Shedding affecting time modules		
	 Trees and branches overhangs on electrical wiring causes interruptions		
	 Lack of adequate equipment		
	<Provide statistical information on (as a minimum):>		
	Number and total operating cost of streetlights servicing population:		570 968
	Total bulk kilowatt hours consumed for street lighting:		1 626 311
	Engineering Electrical Streetlights An amount of were spent on the maintenance of the streetlights in Msukaligwa.		570 968










5.5.2.6 - Detail Information

Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: Maintenance of Buildings

Reporting Level	Detail	Total
Overview:	Includes all activities associated maintenance of Municipal Buildings	
Description of the Activity:	<p>The responsibilities of the Maintenance of Buildings in the municipality are administered as follows and include:</p> <ul style="list-style-type: none">  Continuous maintenance of buildings <p>The strategic objectives of this function are:</p> <ul style="list-style-type: none">  The maintenance of all other halls in Msukaligwa  The maintaining of all other municipal buildings (old age homes, flats etc.)  The maintenance of fixed electrical equipment (stoves, lights, geysers etc.)  The maintenance of stand-by generators  The maintenance of Civic Centre Ermelo <p>The key issues for 2007/08 are:</p> <ul style="list-style-type: none">  Old and outdated equipment  Shortage of personnel  Budget constraints <p>Solving the key issues</p> <ul style="list-style-type: none">  Proper management of all available resources  Constant monitoring and re-alignment of resources 	
Analysis of the Function:	<p><Provide statistical information on (as a minimum):></p> <p>Total operating cost of Maintenance</p>	<p>774 475</p>

5.5.2.7 - Detail Information

Function: Msukaligwa Municipality
Sub: Engineering Services
Sub Function: PMU Management

Reporting Level	Detail	Total	
Overview:	Includes all activities associated with the Project Management to the community		
Description of the Activity:	To monitor and manage all project , obtain funds and drafting of business plans, all projects IDP related The strategic objectives of this function are to:  Provide sustainable service delivery to the community The key issues for 2007/08 are:  Shortage of personnel		
Analysis of the Function:	<Provide statistical information on (as a minimum):> Number and total operating cost  Included in Engineering budget Number and cost to employer of all personnel associated with the PMU function:  PMU Manager  Technician  Special Workforce  Non-professional (blue collar, outside workforce)  Temporary  Contract Total Costs:	 	